



## Annual Spring Turfgrass Seminar

Thursday, April 11, 2013

8:00 AM to 2:00 PM

Maricopa County Cooperative Extension

4341 E. Broadway Road

Phoenix, AZ 85040

### Haboobs, Heat, Rain, and Snow in the Desert Understanding Meteorological Phenomena and Their Impact on Turf Management

Learn about the basics of meteorology (jet streams, fronts, & pressure systems); Arizona's seasons (monsoon & dust storms); climate change and applications for frost management and irrigation management.

Presented by:

**Paul Brown**, UA Extension Biometeorologist, Soil, Water, and  
Environmental Science Department

**Mike Crimmins**, UA Extension Climate Specialist, Soil, Water, and  
Environmental Science Department

**Brian Whitlark**, Agronomist, U.S. Golf Association Green Section

*Registration fee of \$25 includes handouts, lunch and refreshments. **Late registration fee will be \$40 after April 8 or day of seminar.** Receipts available upon request. **No credit cards or purchase orders accepted.***

*Cut, fill and return form below for each attendee. Photocopy form for additional registrants. Please make check payable to: **The University of Arizona.** Mail form(s) and check to: Turf Seminar, University of Arizona Cooperative Extension, 4341 East Broadway Road, Phoenix, AZ 85040.*

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Name: \_\_\_\_\_

Organization: \_\_\_\_\_

Address, City, Zip: \_\_\_\_\_

Email address: \_\_\_\_\_

Telephone: \_\_\_\_\_

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# **Haboobs, Heat, Rain, and Snow in the Desert**

## **Annual Spring Turfgrass Seminar**

### **Program Outline**

- 7:30 am Check-in / registration
- 8:00 am Basics of Meteorology
  - Pressure systems
  - Fronts
  - Precipitation
  - Jet Streams
  - Wind Flow Patterns
  - Lightning
- 8:45 am Arizona Weather & Climate
  - Arizona Seasons
  - Understanding the Monsoon
  - ENSO+ (longer term ocean impacts)
  - Winds & Dust Storms
  - Climate Change
- 9:30 am Break
- 9:45 am Weather & Turf Management
  - Irrigation Management
    - ET & Reference ET
    - Crop Coefficients
    - Deficit Irrigation
    - Weather Stations
    - Monitoring Soil Moisture
  - Frost Management
    - Frost Basics
    - Impacts of Soil Moisture/Irrigation
    - Impact of Wind Flow
- 11:30 am Lunch
- 12:00 pm Weather & Turf Management (continued)
  - Wind Flow
    - Mountain/Valley Flow
    - Factors Impacting Wind Speed
    - Impacts on Irrigation Uniformity/Efficiency
  - Soil Temperature
    - Seasonal Trends (Surface & Depth)
    - Daily Trends (Surface & Depth)
    - Influence of Moisture
    - Influence of Vegetation
- 1:00 pm Online Sources of Weather Information
  - Public & Private Sources
  - Short Term Forecasts
  - Medium & Long Term Forecasts/ Interpretation & Limitations
  - Radar Summaries (Precipitation)
  - Lightning Reports
- 2:00 pm Adjourn